1 WHAT IS CLAIMED IS:

- 1. A purified ICOS polypeptide having altered affinity for B7-H2 compared to a wild-type 2 ICOS polypeptide, wherein said affinity is at least 6% of the affinity of said wild-type 3
- ICOS polypeptide. 4

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- 2. The purified ICOS polypeptide of claim 1, the amino acid sequence of which differs from 5 a wild-type ICOS polypeptide having the amino acid sequence of SEQ ID NO:12. 6
- 3. The purified ICOS polypeptide of claim 2, wherein said difference is at amino acid 7 position 76. 8
- 4. The purified ICOS polypeptide of claim 3, wherein said amino acid position 76 contains 9 a glutamine. 10
 - 5. The purified ICOS polypeptide of claim 2, wherein said difference is at amino acid position 52.
 - 6. The purified ICOS polypeptide of claim 5, wherein said amino acid position 52 contains a serine.
 - 7. The purified ICOS polypeptide of claim 1, wherein said polypeptide is capable of inhibiting T cell activation in a T cell proliferation assay.
 - 8. An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes the polypeptide of claim 1.
 - 9. A vector comprising the nucleic acid of claim 8. 19
 - 10. The vector of claim 9, wherein said nucleic acid sequence is operably linked to 20 expression control sequences. 21
 - 11. A host cell comprising the vector of claim 9. 22
 - 12. A method for inhibiting T cell activation, comprising contacting an antigen-presenting 23 cell with a purified ICOS polypeptide, wherein said polypeptide is capable of binding to 24

- B7-H2 with increased affinity relative to a wild-type ICOS polypeptide having the amino 1 acid sequence of SEQ ID NO:12. 2
- 13. The method of claim 12, wherein said purified ICOS polypeptide comprises a Ser76Glu 3 mutation. 4
- 14. The method of claim 12, wherein said purified ICOS polypeptide comprises a Lys52Ser 5 mutation. 6
- 15. A method for inhibiting T cell activation in a subject, comprising administering an 7 amount of the purified ICOS polypeptide of claim 1 that is capable of inhibiting a T cell 8 9 response in said subject.
- 16. The method of claim 15, wherein said ICOS polypeptide comprises a Ser76Glu mutation.
 - 17. The method of claim 15, wherein said ICOS polypeptide comprises a Lys52Ser mutation.
 - 18. The method of claim 15, wherein said subject has an autoimmune disease.
 - 19. The method of claim 18, wherein said subject has rheumatoid arthritis.
 - 20. The method of claim 18, wherein said subject has systemic lupus erythematosus.
 - 21. The method of claim 18, wherein said subject has diabetes mellitus.
 - 22. The method of claim 15, wherein said subject is a transplant recipient. 16
 - 23. A method for making an ICOS polypeptide, comprising culturing the cell of claim 11 and 17 isolating said ICOS polypeptide from said culture. 18